

***Evaluation of activities related
to the investigation of a former
manufactured gas plant,
Fifth and Hill Streets,
Champaign, Illinois***

Prepared for

The City of Champaign, Illinois

Prepared by

***Rapps Engineering and Applied Science, Inc.
Mahomet Office***

103 South Lincoln Street
Mahomet, Illinois 61853
217.586.6116

May 8, 2008

Former Manufactured Gas Plant Investigation Fifth and Hill Streets, Champaign, Illinois

Introduction

The City of Champaign has been closely following and monitoring investigations related to environmental conditions of the former site of a manufactured gas plant (MGP) located at Fifth and Hill Streets, Champaign, Illinois (Figure 1). The site, now owned by AmerenIP, was the location of a MGP from approximately 1869 through 1933. The property was conveyed to American Legion Post 559 who used the booster house building as a headquarters and meeting place for several years between 1971 and 1991. AmerenIP purchased and acquired the property in 1991.

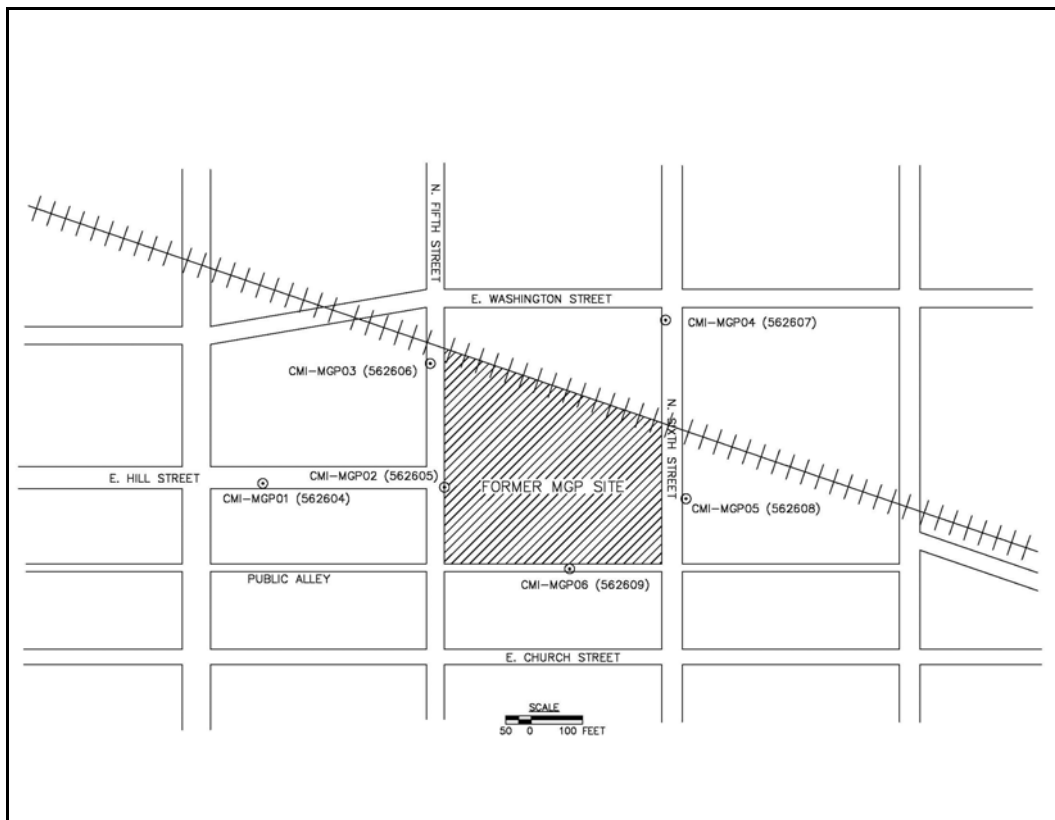


Figure 1 Area of former Manufactured Gas Plant. Passive soil gas survey module locations are labeled CMI-MGP01 through CMI MGP06 and are not shown to scale or at precise geographic point. Values following identifiers in parentheses are laboratory control numbers.

MGP sites are known to present environmental problems due to residue remaining from the operations previously conducted to produce gas distributed to homeowners and businesses for heating and lighting. The Fifth and Hill Site

shares such a history and is considered to have recognized environmental conditions (REC) that require remediation. AmerenIP has, to date, treated and removed approximately 1,500 tons of contaminated soil and geologic material as part of its remediation activities at the Site. These remediation activities are being performed under the auspices of the Site Remediation Program (SRP) administered by the Illinois Environmental Protection Agency (IEPA). According to the IEPA Bureau of Land's website information page, the SRP is a voluntary program that provides:

“ . . . Remediation Applicants (i.e., any persons seeking to perform investigative or remedial activities) the opportunity to receive IEPA review, technical assistance and no further remediation determinations from the Illinois EPA. This program is designed to be flexible and responsive to the needs of the Remediation Applicants. The goals and scope of actions at these sites are normally defined by the Remediation Applicants.

The Illinois EPA is authorized to issue No Further Remediation (NFR) letters to the Remedial Applicants who have successfully demonstrated, through proper investigation and, when warranted, remedial action, that environmental conditions at their remediation site do not present a significant risk to human health or the environment. The NFR letter signifies a release from further responsibilities under the Illinois Environmental Protection Act. This program's activities are paid by the parties requesting the Illinois EPA's oversight.”

The City, for its part, has maintained diligence over activities at the Site through contact with AmerenIP and its consultants as well as with concerned citizens in the neighborhood. In addition, the City has tasked one of its own environmental consultants, Dr. Nicholas P. Schneider, now affiliated with Rapps Engineering and Applied Science, Inc. (Rapps), to review and evaluate all documentation provided by AmerenIP, including a Report of Investigation (2007) and Proposed Work Plan (2008) as well as information obtained by the City regarding the Site as a result of citizen interactions.

In addition, as part of its review, evaluation and reporting activities, Rapps performed a very general soil gas survey in the neighborhood to determine if any emergencies existed relative to environmental conditions at the Site as well as the probability that residents of the community were being affected on a daily basis by volatile organic materials (VOCs) reportedly present in soils and groundwater at or adjacent to the Site.

Following is a summary report of the activities performed by Rapps environmental and engineering staff.

AmerenIP Reports and Activities

During the past 20 years or so, there have been several investigations to evaluate the nature and extent of any environmental impacts created by operations of the MGP at this site. Rapps staff have reviewed and evaluated the most recent report, *Comprehensive Site Investigation Report, Former Manufactured Gas Plant, Champaign, Illinois* prepared by Philip Environmental Services Corporation (PESC) for their client, AmerenIP, St. Louis, Missouri and dated December 2007. Also reviewed was the Off-Site Investigation Work Plan, *Former Manufactured Gas Plant, Champaign, Illinois* prepared by PESC dated March 2008 and a letter to Council Member, Ms. Gina Jackson, prepared by KELRON Environmental, Champaign, Illinois dated January 25, 2008. Previous reports of other investigations were not readily available to Rapps but summaries of these investigations are included in the CSIR.

Comprehensive Site Investigation Report (CSIR) Review

The CSIR appears to be a well-detailed and documented accounting of known environmental conditions at the site. It would appear that all of the investigation procedures reported in the CSIR as used at the Site over time conform to or exceed industry and regulatory standards. No lapses or errors in sampling or procedures are apparent. In fact, PESC used the most restrictive remediation objectives provided in TACO (Tiered Approach to Corrective Action Objectives) Tier I which is generally used for residential properties despite the fact that the subject property would unlikely be used for residential purposes in the future.

CSIR Section 2.10.3.6, Groundwater Monitoring and Sampling, outlined the work performed to define groundwater conditions on and in the vicinity of the Site. Rapps notes that the work performed appears very complete but Rapps' scientists take exception to comments describing up- and down-gradient positions relative to shallow groundwater. As noted later in this section under the sub-title of Groundwater Flow Conditions:

“shallow groundwater flow directions and velocities are complicated by localized areas of enhanced permeabilities, e.g., sand lenses and backfill around gas and sewer lines (CSIR, 2007; p24). “

Indeed it is virtually impossible to discern the direction of groundwater flow, therefore up-gradient or down-gradient position, under such conditions where the actual hydraulic connections between monitoring well/piezometer with screens open to various depths within 25 feet of the surface are unknown.

Thus the value of the shallow monitoring wells, it seems, is to identify where constituents of concern may reside as opposed to identifying the pathway of those constituents as they moved from the original source. We also note that many of these constituents that are now identified as undesirable contaminants

(e.g., benzene, toluene, and other petroleum based hydrocarbons) are also somewhat ubiquitous in an urban environment and may have sources other than previous operations of the MGP at that location.

If there is any criticism of the report it is in lack of explanation of some findings. For example, while the report states that the contamination on the subject property exists and is extensive yet does not pose an imminent threat to human health and safety, the report does not do a sufficient job of explaining why the contamination is not a threat. A reader must intuit this conclusion through the reading of the entire document and that reader must have more than basic understanding of the subject and the science behind that subject.

Notably, the investigation includes findings that contamination has moved off the subject property explicitly implying that both groundwater and soils have been impacted by a source or sources on the Site. Yet the CSIR does not contain sufficient information as to what such off-Site migration implies relative to the community and the residents living adjacent to the Site.

Finally, the report includes no estimated timetable for remedial activities at the Site (*as of this report, additional investigation has begun that will conceivably lead to additional remediation*). The report simply states that AmerenIP will “coordinate with potentially affected property owners to complete off-site evaluations and address impacts.” The Site was entered in the SRP in 1989 and it would appear that a sufficient amount of time has elapsed to undertake any necessary remedial activities to gain a No Further Remediation letter from the IEPA. However, it must be noted that approval of such activities by the IEPA must be obtained and some activities may require permits, a process that generally adds significant time to the overall project.

Off-Site Investigation Work Plan (OSWP) Review

Rapps has also reviewed the OSWP recently prepared (March 2008) for AmerenIP by PSC and recently implemented. Rapps does not know if all of the elements of the OSWP were implemented or implemented as designed as of the date of this report, but Rapps is knowledgeable of the fact that the off-Site work had begun and was moving along as planned.

The OSWP is a very comprehensive plan of action and provides for extensive data collection to better define the extent of potential off-Site impacts that may be associated with the MGP Site. The objective of the plan appears to be to collect information that will provide direction for any remediation that may be necessary to acquire a No Further Action letter (or letters) for any property (site) discovered with a REC that requires remedial action. It would appear that AmerenIP is intent upon identifying any potential threats to human health or the environment of the community that are related to operations and activities of the former MGP.

KELRON environmental Letter (KEL) Review

The KEL was prepared by Mr. Stuart J. Cravens, who has identified himself as an Illinois Professional Geologist (ILPG) and a Certified Ground Water Professional (CGWP). An ILPG is a geologist who is licensed by the State of Illinois to practice geology as defined by the Professional Geologists Act (225 ILCS 745). A CGWP is a designation given by the Association of Ground Water Scientists and Engineers, a membership division of National Ground Water Association. In brief, to be designated a CGWP, that individual must have at least seven years of progressively more responsible professional experience, following receipt of a baccalaureate degree, during which full competence has been demonstrated in the application of scientific or engineering principles and methods to the execution of work involving the understanding of the occurrence, movement, and composition of ground water.

The KEL is a fundamentally correct and reasonably accurate depiction of the MGP Site in relation to the regional groundwater resources and public water supply wells. There are one or two statements in the KEL that Rapps takes exception to but these are not germane in the context of potential impacts from the former MGP Site. As an example, one exception specifically relates to the statement that the AmerenIP MGP site in Champaign “overlies the Mahomet Bedrock Valley (MBV).” This implies a more strategic position of the Site’s location than that which actually exists. If geologic conditions, especially groundwater conditions, at the Site were such that a major environmental hazard to deep groundwater resources existed, then position relative to the MBV would gain importance. Present data do not suggest this scenario, and the main axis of the MBV is well to the north. Nonetheless, the KEL correctly summarizes the general geologic, and therefore, hydrogeologic conditions for the area in which the former MGP is located.

Passive Soil Gas Survey

Rapps conducted a preliminary and very general investigation of soil gas content in part as a response to a citizen report of odors in a residential basement. The purpose of this investigation was to provide the City of Champaign with independently collected data regarding volatile organic compounds (VOCs) that might be effusing from contaminants at depth regardless of the original source of those contaminants. To accomplish this facet of the Rapps inquiry, geochemical data was collected through the use of passive diffusion sampling methodology.

Passive diffusion sampling in air, soil, and water is a proven, effective compound collection method. The samplers can be deployed in unsaturated and saturated soils, in sediments, and aqueous environments including groundwater. Specifically, Rapps used the GORE™ Module, a patented, passive sampler that is constructed of a GORE-TEX® membrane tube, a chemically inert, waterproof, yet vapor-permeable membrane, housing engineered sorbents. Volatile organic

compounds present in air or soil gas migrate unimpeded through the tube to the sorbents. If water is encountered, dissolved compounds partition to vapor across the membrane and are captured by the sorbent.

The object of the passive diffusion sampling was to determine the character and amount of flux of organic compounds, if any, rising through the soil from reported sources of organic volatile compounds at depth. The analyses focused on target compound suites comprised of the VOCs of concern included in the CSIR. Placement of the modules was accomplished using a portable hammer drill with a 1.5-inch auger bit. The selected locations were all off-Site and consisted of six (6) sample locations (Figure 1) where the patented, passive sampler tube holding engineered sorbents was placed approximately 36 inches below land surface in a small diameter boring.

The sample modules were installed on March 6, 2008 and retrieved on March 26, 2008. Of the many organic compounds analyzed for, the only detections at levels that could be measured were for Total Petroleum Hydrocarbons (TPH), the combination BTEX suite (benzene, toluene, ethyl benzene, and xylene(s) and three subordinate compounds of the TPH category: mpXYL, oXYL, and the grouping that included C11, C13, and C15. An explanation of these compounds is beyond the scope of this report. The laboratory report is included herein as Appendix A. None of the analytes detected were measured in concentrations or flux that would be considered harmful.

The highest value reported was for TPH at the location along the west side of Fifth Street near the railroad tracks (See Figures in Appendix A, W.L.Gore Report). This sample yielded a concentration of 6.98 micrograms or parts per billion. This value is not the same, however, as a reported concentration of similar value in water or soil. This is a collected, total concentration that resulted from a three-week exposure to the volatile compounds in the mixture. It would not be correct, either, to divide the total concentration by the number of exposure days to determine a daily flux because there is no way to confirm or deny the consistency of the gas "emission."

Recent verbal communication to the City from AmerenIP environmental staff has indicated that diesel fuel was found in borings west of Fifth Street near the railroad tracks. Diesel fuel is not a product of MGP operations. A resident reportedly told an AmerenIP representative that a gas station used to be located west of Fifth Street near the railroad tracks. Rapps has been advised that City staff will obtain a history of the property(s) at the location to confirm or deny the report.

These data are interpreted to indicate that there is no immediate danger to human health or environment within the area surveyed. However, in the area where the higher values for TPH have been detected, the source of the TPH could possibly be an environmental concern. There is a caution, nonetheless, in

over interpreting these data relative to the former MGP in that these compounds are used everyday by numerous residents as fuel for automobiles, lawn mowers, cleaning compounds, etc. and the actual source of these constituents of concern are numerous.

Summary of Findings

Following its review and evaluation of the documents described above and the results of a limited soil gas survey, there does not appear to be any immediate threat to human health or environment in the neighborhood of Fifth and Hill Streets, Champaign, Illinois, the general location of a former MGP now under investigation by consultants of AmerenIP.

The *Comprehensive Site Investigation Report, Former Manufactured Gas Plant, Champaign, Illinois* and *Off-Site Investigation Work Plan, Former Manufactured Gas Plant, Champaign, Illinois* prepared by AmerenIP consultant Philip Environmental Services Corporation are competent and complete. AmerenIP appears to have accurately documented as well as implemented an appropriate plan to more precisely define environmental conditions in the neighborhood of Fifth and Hill Streets, the general location of the former Manufactured Gas Plant.

APPENDIX A

W.L. GORE REPORT



W. L. GORE & ASSOCIATES, INC.

100 CHESAPEAKE BLVD., P.O. BOX 10 • ELKTON, MARYLAND 21922-0010

PHONE: 410.392.7600 • FAX: 410.506.4780

GORE™ EXPLORATION SURVEY

GORE™ ENVIRONMENTAL SURVEY

May 14, 2008

Nicholas Schneider
Schneider Geoscience, P.C.
103 South Lincoln Street
Po Box 495
Mahomet, IL 61853-0495

Site Reference: City of Champaign Fifth and Hill MGP, Champaign, IL
Gore Production Order Number: 13536470

Dear Mr. Schneider:

Thank you for choosing a GORE™ Survey.

The attached package consists of the following information (in duplicate):

- **Final report**
- **Chain of custody and Installation/ Retrieval Log (included in Appendix A)**
- **Analytical data table (included in Appendix A)**
- **Stacked total ion chromatograms (included in Appendix A)**
- **Contour maps (included in Appendix A)**

Please contact our office if you have any questions or comments concerning this report. We appreciate this opportunity to be of service to Schneider Geoscience, P.C., and look forward to working with you again in the future.

Sincerely,
W.L. Gore & Associates, Inc.

Jim Whetzel
Project Manager

Attachments

cc: GSHAW (W.L. Gore & Associates, Inc.)

SA\ENVIRONMENTAL\GORE SURVEYS\PROJECTS IN PROGRESS\13536470\080514R.DOC



W. L. GORE & ASSOCIATES, INC.

100 CHESAPEAKE BLVD., P.O. BOX 10 • ELKTON, MARYLAND 21922-0010

PHONE: 410.392.7600 • FAX: 410.506.4780

GORE™ EXPLORATION SURVEY

GORE™ ENVIRONMENTAL SURVEY

GORE™ Surveys Final Report

City of Champaign Fifth and Hill MGP
Champaign, IL

May 14, 2008

Prepared For:
Schneider Geoscience, P.C.
103 South Lincoln Street
Po Box 495
Mahomet, IL, 61853-0495

W.L. Gore & Associates, Inc.

Written/Submitted by:

Jim E. Whetzel, Project Manager

Reviewed/Approved by:

Jay W. Hodny, Ph.D., Product Specialist

Analytical Data Reviewed by:

Jim E. Whetzel, Chemist

This document shall not be reproduced, except in full, without written approval of W.L. Gore & Associates, Inc.

GORE™ Surveys - Final Report

REPORT DATE: 05/14/2008

AUTHOR: JW

SITE INFORMATION

Site Reference: City of Champaign Fifth and Hill MGP, Champaign, IL

Gore Production Order Number: City of Champaign Fifth and Hill MGP

Gore Site Code: EFC

FIELD PROCEDURES

Modules shipped: 7

Installation Date(s): 3/6/08

Modules Installed: 6

Field work performed by: Schneider Geoscience, P.C.

Retrieval date(s): 3/26/08

Exposure Time: 20 [days]

Modules Retrieved: 6

Trip Blanks Returned: 1

Modules Lost in Field: 0

Unused Modules Returned: 0

Modules Not Returned: 0

Date/Time Received by Gore: 3/27/2008 1:30 PM **By:** DY

Chain of Custody Form attached: Yes

Chain of Custody discrepancies: None

Comments:

Module 562610 was identified as a trip blank.

GORE™ Surveys - Final Report

ANALYTICAL PROCEDURES

W.L. Gore & Associates' Screening Module Laboratory operates under the guidelines of its Quality Assurance Manual, Operating Procedures and Methods. The quality assurance program is consistent with Good Laboratory Practices (GLP) and ISO Guide 25, "General Requirements for the Competence of Calibration and Testing Laboratories", third edition, 1990.

Instrumentation consists of state of the art gas chromatographs equipped with mass selective detectors, coupled with automated thermal desorption units. Sample preparation simply involves cutting the tip off the bottom of the sample module and transferring one or more exposed sorbent containers (sorbents, each containing engineered adsorbents) to a thermal desorption tube for analysis. Sorbents remain clean and protected from dirt, soil, and ground water by the insertion/retrieval cord, and require no further sample preparation.

Analytical Method Quality Assurance:

The analytical method employed is a modified EPA method 8260/8270. Before each run sequence, two instrument blanks, a sorbent containing 5µg BFB (Bromofluorobenzene), and a method blank are analyzed. The BFB mass spectra must meet the criteria set forth in the method before samples can be analyzed. A method blank and a sorbent containing BFB are also analyzed after every 30 samples and/or trip blanks. Standards containing the selected target compounds at five calibration levels are analyzed at the beginning of each run. The criterion for each target compound is less than 25% RSD (relative standard deviation). If this criterion is not met for any target compound, the analyst has the option of generating second- or third-order standard curves, as appropriate. A second-source reference standard, at a level of 10µg per target compound, is analyzed after every ten samples and/or trip blanks, and at the end of the run sequence. Positive identification of target compounds is determined by 1) the presence of the target ion and at least two secondary ions; 2) retention time versus reference standard; and, 3) the analyst's judgment.

NOTE: All data have been archived. Any replicate sorbents not used in the initial analysis will be discarded fifteen (15) days from the date of analysis.

Laboratory analysis: thermal desorption, gas chromatography, mass selective detection

Instrument ID: # 8 **Chemist:** DC/DD/JW

Compounds/mixtures requested: A4

Deviations from Standard Method: No data is available for the method blank due to an analyst error.

Comments: Soil vapor analytes and abbreviations are tabulated in the Data Table Key (page 6).

GORE™ Surveys - Final Report

DATA TABULATION

CONTOUR MAPS ENCLOSED: Three (3) B-sized color contour maps

LIST OF MAPS ENCLOSED:

- Benzene, Toluene, Ethyl benzene, and total Xylenes (BTEX)
- Undecane, Tridecane, and Pentadecane (C11, C13&C15)
- Total Petroleum Hydrocarbons (TPH)

NOTE: All data values presented in Appendix A represent masses of compound(s) desorbed from the GORE™ Modules received and analyzed by W.L. Gore & Associates, Inc., as identified in the Chain of Custody (Appendix A). The measurement traceability and instrument performance are reproducible and accurate for the measurement process documented. Semi-quantitation of the compound mass is based on a five-level standard calibration.

General Comments:

- This survey reports soil gas mass levels present in the vapor phase. Vapors are subject to a variety of attenuation factors during migration away from the source concentration to the module. Thus, mass levels reported from the module will often be less than concentrations reported in soil and groundwater matrix data. In most instances, the soil gas masses reported on the modules compare favorably with concentrations reported in the soil or groundwater (e.g., where soil gas levels are reported at greater levels relative to other sampled locations on the site, matrix data should reveal the same pattern, and vice versa). However, due to a variety of factors, a perfect comparison between matrix data and soil gas levels can rarely be achieved.
- Soil gas signals reported by this method cannot be identified specifically to soil adsorbed, groundwater, and/or free-product contamination. The soil gas signal reported from each module can evolve from all of these sources. Differentiation between soil and groundwater contamination can only be achieved with prior knowledge of the site history (i.e., the site is known to have groundwater contamination only).
- QA/QC trip blank modules were provided to document potential exposures that were not part of the soil gas signal of interest (i.e., impact during module shipment, installation and retrieval, and storage). The trip blanks are identically manufactured and packaged soil gas modules to those modules placed in the subsurface. However, the trip blanks remain unopened during all phases of the soil gas survey. Levels reported on the trip blanks may indicate potential impact to modules other than the contaminant source of interest.

GORE™ Surveys - Final Report

- Unresolved peak envelopes (UPEs) are represented as a series of compound peaks clustered together around a central gas chromatograph elution time in the total ion chromatogram. Typically, UPEs are indicative of complex fluid mixtures that are present in the subsurface. UPEs observed early in the chromatogram are considered to indicate the presence of more volatile fluids, while UPEs observed later in the chromatogram may indicate the presence of less volatile fluids. Multiple UPEs may indicate the presence of multiple complex fluids.
- Stacked total ion chromatograms (TICs) are included in Appendix A. The six-digit serial number of each module is incorporated into the TIC identification (e.g.: 123456S.D represents module #123456).

Project Specific Comments:

- The minimum (gray) contour level, for each mapped analyte or group of analytes, was set at the maximum blank level observed or the method detection limit, whichever was greater. When target compounds are summed together (i.e., BTEX), the contour minimum is arbitrarily set at 0.02 µg or the maximum blank level, whichever is greater. The maximum contour level was set at the maximum value observed.
- No target compounds were detected on the trip blanks and/or the method blanks. Thus, target analyte levels reported for the field-installed modules that exceed trip and method blank levels, and the analyte method detection limit, are more likely to have originated from on-site sources.
- In general, observed levels were low. The mapped spatial patterns indicated highest levels of aliphatic hydrocarbons at module CMI-MGP03. One detection for BTEX compounds was observed at location CMI-MGP06.
- If the objective of the soil gas survey was to delineate the nature and extent of the contamination, then additional soil gas sampling is recommended in those areas where the color contours appear to extend into unsampled areas. Subsequent sampling events can be combined with the data from this event and mapped together to provide greater coverage.

GORE™ Surveys - Final Report

KEY TO DATA TABLE

City of Champaign Fifth and Hill MGP, Champaign, IL

UNITS

µg	micrograms (per sorber), reported for compounds
MDL	method detection limit
bdl	below detection limit
nd	non-detect

ANALYTES

BTEX	combined masses of benzene, toluene, ethylbenzene and total xylenes (Gasoline Range Aromatics)
BENZ	benzene
TOL	toluene
EtBENZ	ethylbenzene
mpXYL	m-, p-xylene
oXYL	o-xylene
C11,C13&C15	combined masses of undecane, tridecane, and pentadecane (C11+C13+C15) (Diesel Range Alkanes)
UNDEC	undecane
TRIDEC	tridecane
PENTADEC	pentadecane
TMBs	combined masses of 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene
135TMB	1,3,5-trimethylbenzene
124TMB	1,2,4-trimethylbenzene
ct12DCE	cis- & trans-1,2-dichloroethene
t12DCE	trans-1,2-dichloroethene
c12DCE	cis-1,2-dichloroethene
NAPH&2-MN	combined masses of naphthalene and 2-methyl naphthalene
Combined PAHs	combined masses of naphthalene, 2-methyl naphthalene, acenaphthene, acenaphthylene, fluorene, phenanthrene, anthracene, fluoranthene, and pyrene.
NAPH	naphthalene
VC	vinyl chloride
2MeNAPH	2-methyl naphthalene
MTBE	methyl t-butyl ether
PHEN	phenanthrene
11DCA	1,1-dichloroethane
CHCl ₃	chloroform
111TCA	1,1,1-trichloroethane
12DCA	1,2-dichloroethane
CCl ₄	carbon tetrachloride
TCE	trichloroethene
OCT	octane
PCE	tetrachloroethene
CIBENZ	chlorobenzene
14DCB	1,4-dichlorobenzene
11DCE	1,1-dichloroethene
112TCA	1,1,2-trichloroethane
1,1,1,2-TetCA	1,1,1,2-tetrachloroethane
1,1,2,2-TetCA	1,1,2,2-tetrachloroethane
13DCB	1,3-dichlorobenzene
12DCB	1,2-dichlorobenzene

BLANKS

TBn	unexposed trip blanks, travels with the exposed modules
method blank	QA/QC module, documents analytical conditions during analysis

APPENDIX A:

1. CHAIN OF CUSTODY AND INSTALLATION/ RETRIEVAL LOG
2. DATA TABLE
3. STACKED TOTAL ION CHROMATOGRAMS
4. COLOR CONTOUR MAPS

GORE-SORBER® Screening Survey **Installation and Retrieval Log**

Page 1 of 1

SITE NAME & LOCATION

CITY OF CHAMPAIGN
FIFTH & HILL NEP

LINE #	MODULE #	INSTALLATION DATE/TIME	RETRIEVAL DATE/TIME	EVIDENCE OF LIQUID HYDROCARBONS (LPH) or HYDROCARBON ODOR (Check as appropriate)			MODULE IN WATER (check one)		COMMENTS
				LPH	ODOR	NONE	YES	NO	
1.	562604	3/6/08 11:00A	3/26/08 12:07P			✓		✓	
2.	562605	3/6/08 11:15A	3/26/08 12:11P			✓		✓	
3.	562606	3/6/08 11:25A	3/26/08 12:14P			✓		✓	
4.	562607	3/6/08 11:42A	3/26/08 12:17P			✓		✓	
5.	562608	3/6/08 11:58A	3/26/08 12:22P			✓	✓(3)		muddy -
6.	562609	3/6/08 12:15P	3/26/08 12:27P			✓	✓		water droplets obsd
7.	562610	T. BLANK				✓		✓	
8.									
9.									
10.									
11.									
12.									
13.									
14.									
15.									
16.									
17.									
18.									
19.									
20.									
21.									
22.									
23.									
24.									
25.									
26.									
27.									
28.									
29.									
30.									
31.									
32.									
33.									
34.									
35.									
36.									
37.									
38.									
39.									
40.									
41.									
42.									

GORE(TM) SURVEYS ANALYTICAL RESULTS
SCHNEIDER GEOSCIENCES PC, MAHOMET, IL
GORE STANDARD VOC/SVOC TARGET COMPOUNDS PLUS ADDITIONAL PAHs (A4)
CITY OF CHAMPAIGN, FIFTH AND HILL MGP
SITE EFC - PRODUCTION ORDER #13536470

DATE ANALYZED	SAMPLE NAME	TPH, ug	BTEX, ug	BENZ, ug	TOL, ug	ETBENZ, ug	mpXYL, ug	oXYL, ug	C11, C13, &C15, ug
	MDL=			0.01	0.01	0.01	0.01	0.01	
04-03-08	562604	0.02	nd	nd	nd	nd	nd	nd	nd
04-03-08	562605	0.01	nd	nd	nd	nd	nd	nd	nd
04-03-08	562606	6.98	nd	nd	nd	nd	nd	nd	0.04
04-03-08	562607	0.02	nd	nd	nd	nd	nd	nd	nd
04-03-08	562608	0.01	nd	nd	nd	nd	nd	nd	nd
04-03-08	562609	0.14	0.04	nd	nd	nd	0.02	0.02	nd
04-03-08	562610	nd	nd	nd	nd	nd	nd	nd	nd
	Maximum	6.98	0.04	0.00	0.00	0.00	0.02	0.02	0.04
	Standard Dev.	2.83	0.01	0.00	0.00	0.00	0.01	0.01	0.02
	Mean	1.20	0.01	0.00	0.00	0.00	0.00	0.00	0.01

GORE(TM) SURVEYS ANALYTICAL RESULTS
SCHNEIDER GEOSCIENCES PC, MAHOMET, IL
GORE STANDARD VOC/SVOC TARGET COMPOUNDS PLUS ADDITIONAL PAHs (A4)
CITY OF CHAMPAIGN, FIFTH AND HILL MGP
SITE EFC - PRODUCTION ORDER #13536470

SAMPLE NAME	UNDEC, ug	TRIDEC, ug	PENTADEC, ug	TMBs, ug	124TMB, ug	135TMB, ug	ct12DCE, ug	t12DCE, ug	c12DCE, ug
MDL=	0.01	0.01	0.01		0.01	0.01		0.02	0.02
562604	nd	nd	nd	nd	nd	nd	nd	nd	nd
562605	nd	nd	nd	nd	nd	nd	nd	nd	nd
562606	nd	0.02	0.02	nd	nd	nd	nd	nd	nd
562607	nd	nd	nd	nd	nd	nd	nd	nd	nd
562608	nd	nd	nd	nd	nd	nd	nd	nd	nd
562609	nd	nd	nd	nd	nd	nd	nd	nd	nd
562610	nd	nd	nd	nd	nd	nd	nd	nd	nd
Maximum	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Standard Dev.	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

GORE(TM) SURVEYS ANALYTICAL RESULTS
 SCHNEIDER GEOSCIENCES PC, MAHOMET, IL
 GORE STANDARD VOC/SVOC TARGET COMPOUNDS PLUS ADDITIONAL PAHs (A4)
 CITY OF CHAMPAIGN, FIFTH AND HILL MGP
 SITE EFC - PRODUCTION ORDER #13536470

SAMPLE NAME	Combined PAHs, ug	NAPH&2-MN, ug	NAPH, ug	2MeNAPH, ug	MTBE, ug	11DCE, ug	11DCA, ug	111TCA, ug	12DCA, ug
MDL=			0.02	0.01	0.02	0.02	0.05	0.02	0.01
562604	nd	nd	nd	nd	nd	nd	nd	nd	nd
562605	nd	nd	nd	nd	nd	nd	nd	nd	nd
562606	0.00	nd	nd	nd	nd	nd	nd	nd	nd
562607	nd	nd	nd	nd	nd	nd	nd	nd	nd
562608	nd	nd	nd	nd	nd	nd	nd	nd	nd
562609	nd	nd	nd	nd	nd	nd	nd	nd	nd
562610	nd	nd	nd	nd	nd	nd	nd	nd	nd
Maximum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Standard Dev.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

GORE(TM) SURVEYS ANALYTICAL RESULTS
SCHNEIDER GEOSCIENCES PC, MAHOMET, IL
GORE STANDARD VOC/SVOC TARGET COMPOUNDS PLUS ADDITIONAL PAHs (A4)
CITY OF CHAMPAIGN, FIFTH AND HILL MGP
SITE EFC - PRODUCTION ORDER #13536470

SAMPLE NAME	TCE, ug	OCT, ug	PCE, ug	14DCB, ug	Acenaphthene, ug	Acenaphthylene, ug	Fluorene, ug	PHEN, ug	Anthracene, ug
MDL=	0.01	0.01	0.02	0.01	0.01	0.02	0.02	0.02	0.02
562604	nd	nd	nd	nd	nd	nd	nd	nd	nd
562605	nd	nd	nd	nd	nd	nd	nd	nd	nd
562606	nd	nd	nd	nd	bdl	nd	bdl	nd	nd
562607	nd	nd	nd	nd	nd	nd	nd	nd	nd
562608	nd	nd	nd	nd	nd	nd	nd	nd	nd
562609	nd	nd	nd	nd	nd	nd	nd	nd	nd
562610	nd	nd	nd	nd	nd	nd	nd	nd	nd
Maximum	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Standard Dev.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

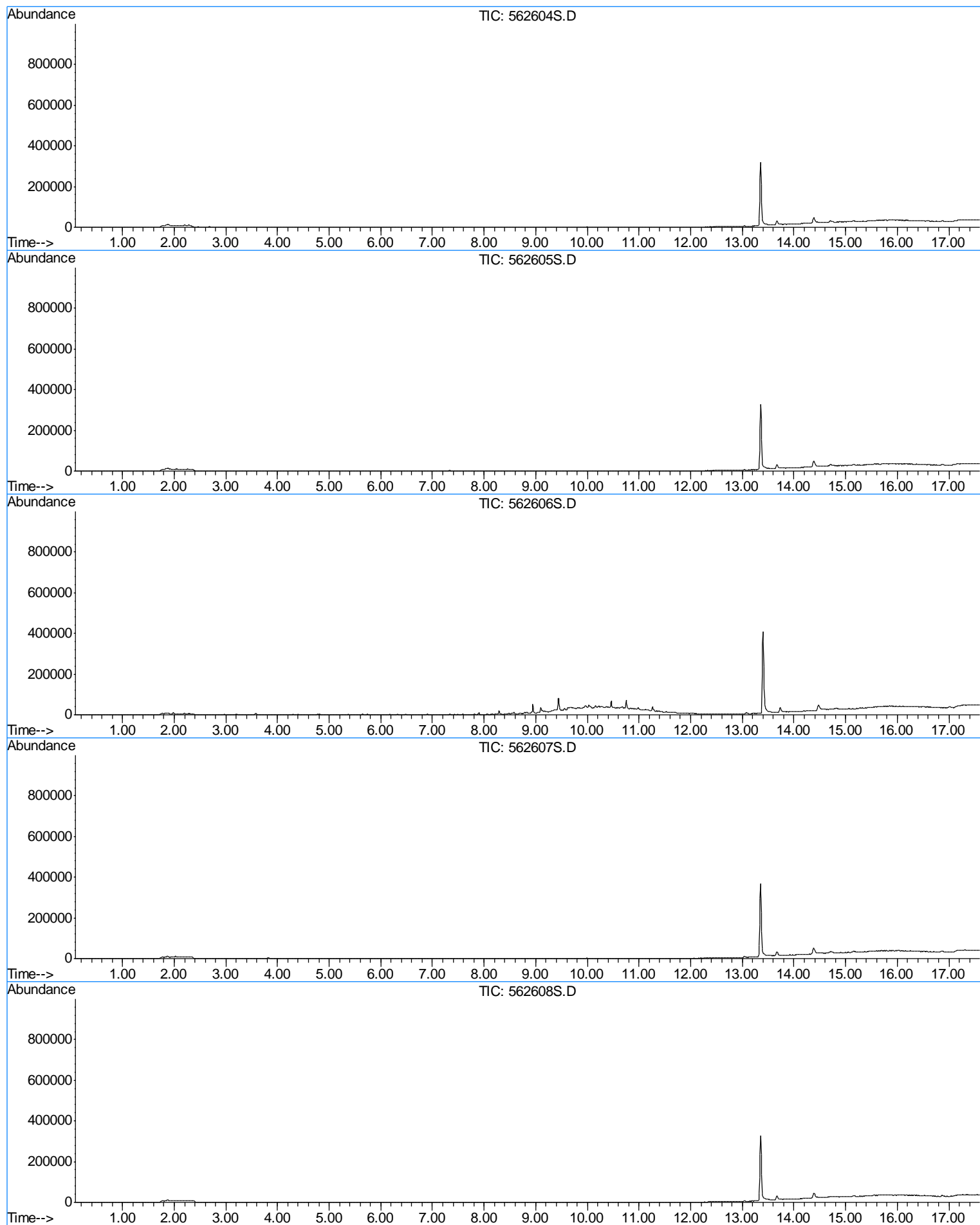
GORE(TM) SURVEYS ANALYTICAL RESULTS
SCHNEIDER GEOSCIENCES PC, MAHOMET, IL
GORE STANDARD VOC/SVOC TARGET COMPOUNDS PLUS ADDITIONAL PAHs (A4)
CITY OF CHAMPAIGN, FIFTH AND HILL MGP
SITE EFC - PRODUCTION ORDER #13536470

SAMPLE NAME	Fluoranthene, ug	Pyrene, ug	CHCl3, ug	CCl4, ug	112TCA, ug	CIBENZ, ug	1112TetCA, ug	1122TetCA, ug	13DCB, ug
MDL=	0.02	0.02	0.05	0.05	0.05	0.01	0.01	0.05	0.01
562604	nd	nd	nd	nd	nd	nd	nd	nd	nd
562605	nd	nd	nd	nd	nd	nd	nd	nd	nd
562606	nd	nd	nd	nd	nd	nd	nd	nd	nd
562607	nd	nd	nd	nd	nd	nd	nd	nd	nd
562608	nd	nd	nd	nd	nd	nd	nd	nd	nd
562609	nd	nd	nd	nd	nd	nd	nd	nd	nd
562610	nd	nd	nd	nd	nd	nd	nd	nd	nd
Maximum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Standard Dev.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

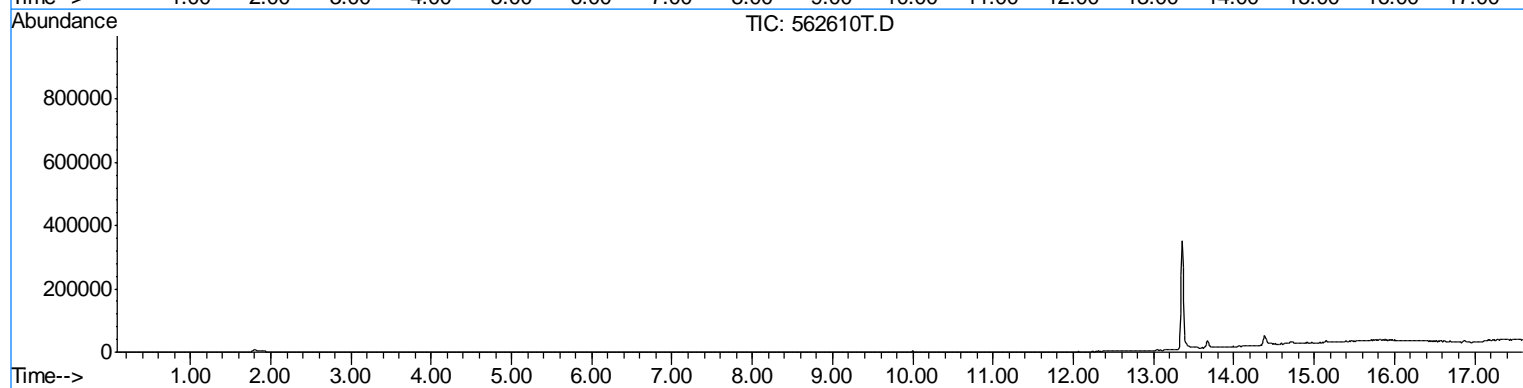
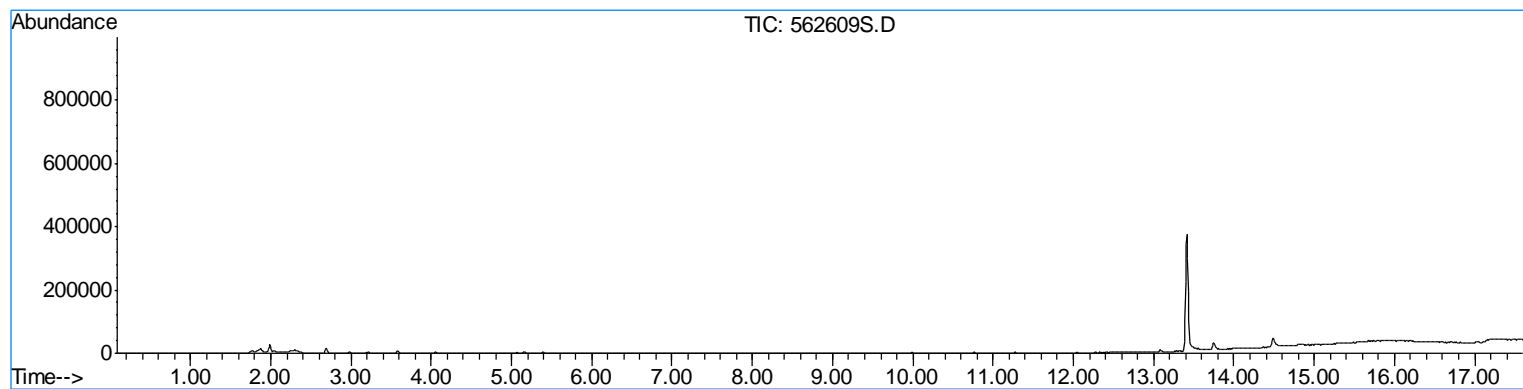
GORE(TM) SURVEYS ANALYTICAL RESULTS
 SCHNEIDER GEOSCIENCES PC, MAHOMET, IL
 GORE STANDARD VOC/SVOC TARGET COMPOUNDS PLUS ADDITIONAL PAHs (A4)
 CITY OF CHAMPAIGN, FIFTH AND HILL MGP
 SITE EFC - PRODUCTION ORDER #13536470

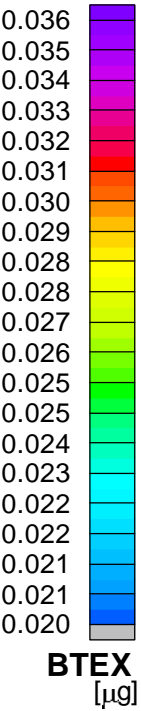
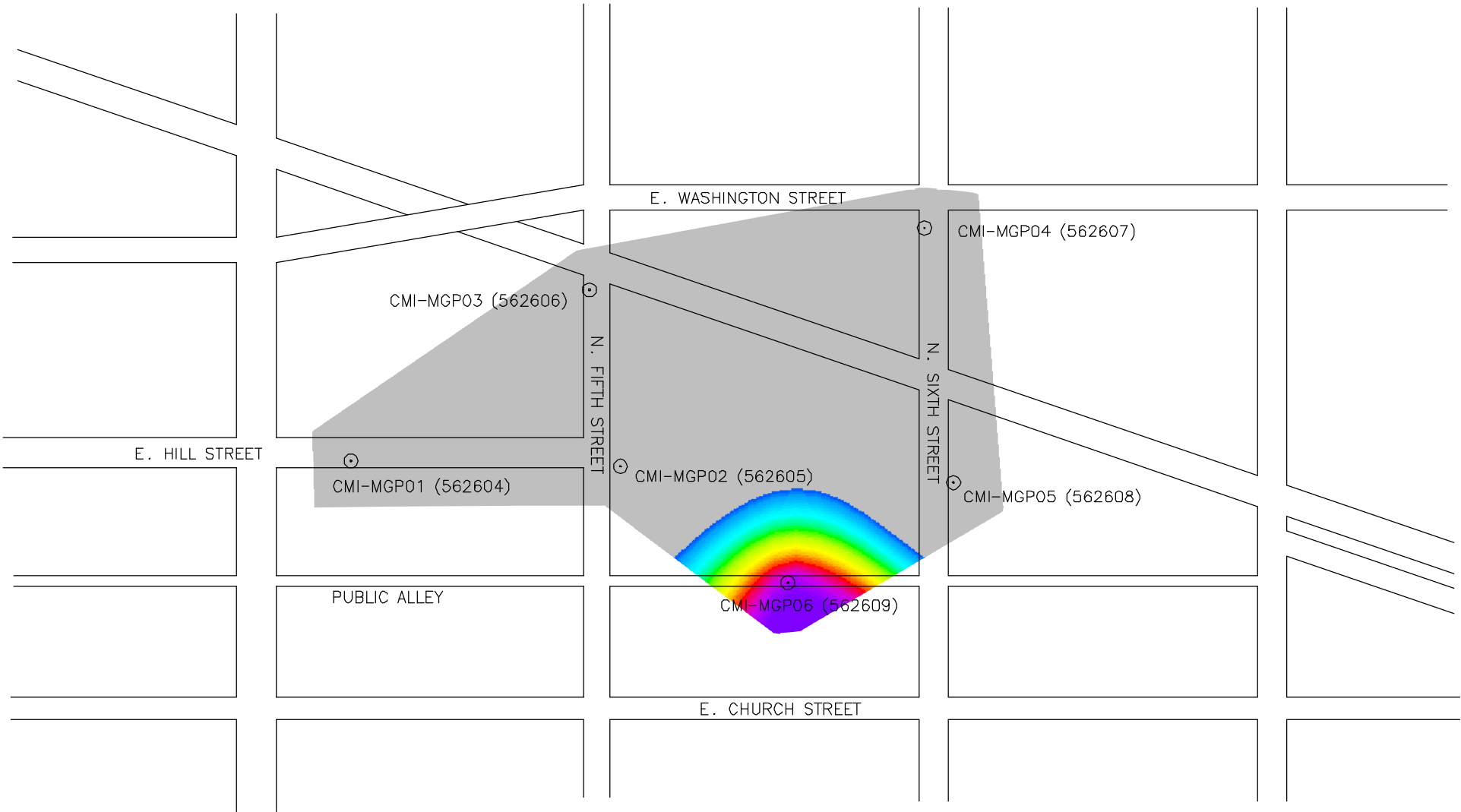
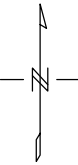
SAMPLE NAME	12DCB, ug
MDL=	0.05
562604	nd
562605	nd
562606	nd
562607	nd
562608	nd
562609	nd
562610	nd
Maximum	0.00
Standard Dev.	0.00
Mean	0.00

TIC - SITE EFC - PRODUCTION ORDER #13536470
In Numerical Order



TIC - SITE EFC - PRODUCTION ORDER #13536470
In Numerical Order





BTEX
[µg]

GORE™ Surveys for Environmental Site Assessment



W.L. GORE & ASSOCIATES, INC.
100 CHESAPEAKE BOULEVARD
ELKTON, MD, USA 21921
USA
(410) 392-7600

Schneider Geoscience PC
City of Champaign, Fifth and Hill MGP
BTEX

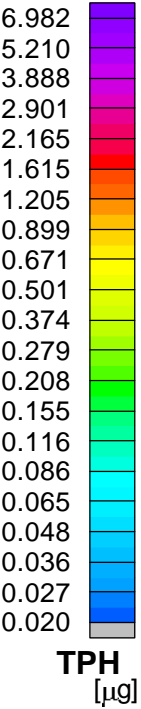
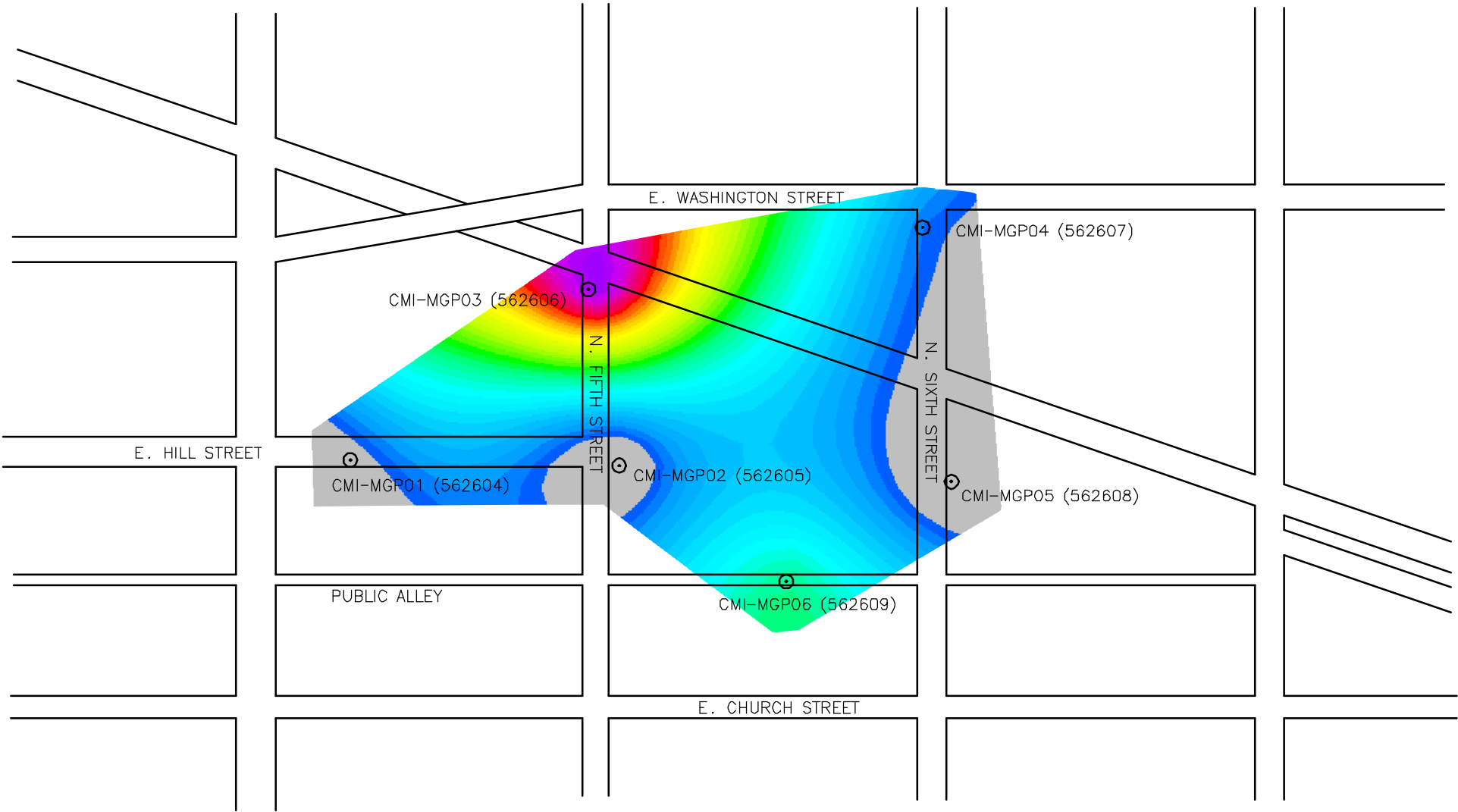
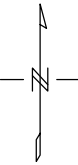
DATE DRAWN: 18 April 2008	DRAWN BY: JW	ORIG. CAD: MGPSite.dwg	SITE CODE: EFC
REV. DATE:	REV. #:	PROJECT NUMBER: 13536470	

GORE and designs are trademarks of W.L. GORE & Associates

THIS DRAWING AND ANY OF ITS ATTACHMENTS HAVE BEEN PRODUCED FOR THE SOLE USE OF THE RECIPIENT IDENTIFIED HEREIN AND MUST NOT BE USED, REPRODUCED OR MODIFIED IN ANY WAY WITHOUT THE PRIOR WRITTEN CONSENT OF W.L. GORE & ASSOCIATES. UNAUTHORIZED USE IS STRICTLY PROHIBITED PURSUANT TO COPYRIGHT, TRADEMARK AND OTHER APPLICABLE LAWS.

Scale 1:2400





GORE™ Surveys for Environmental Site Assessment



W.L. GORE & ASSOCIATES, INC.
100 CHESAPEAKE BOULEVARD
ELKTON, MD, USA 21921
USA
(410) 392-7600

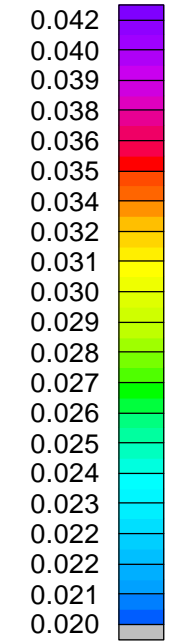
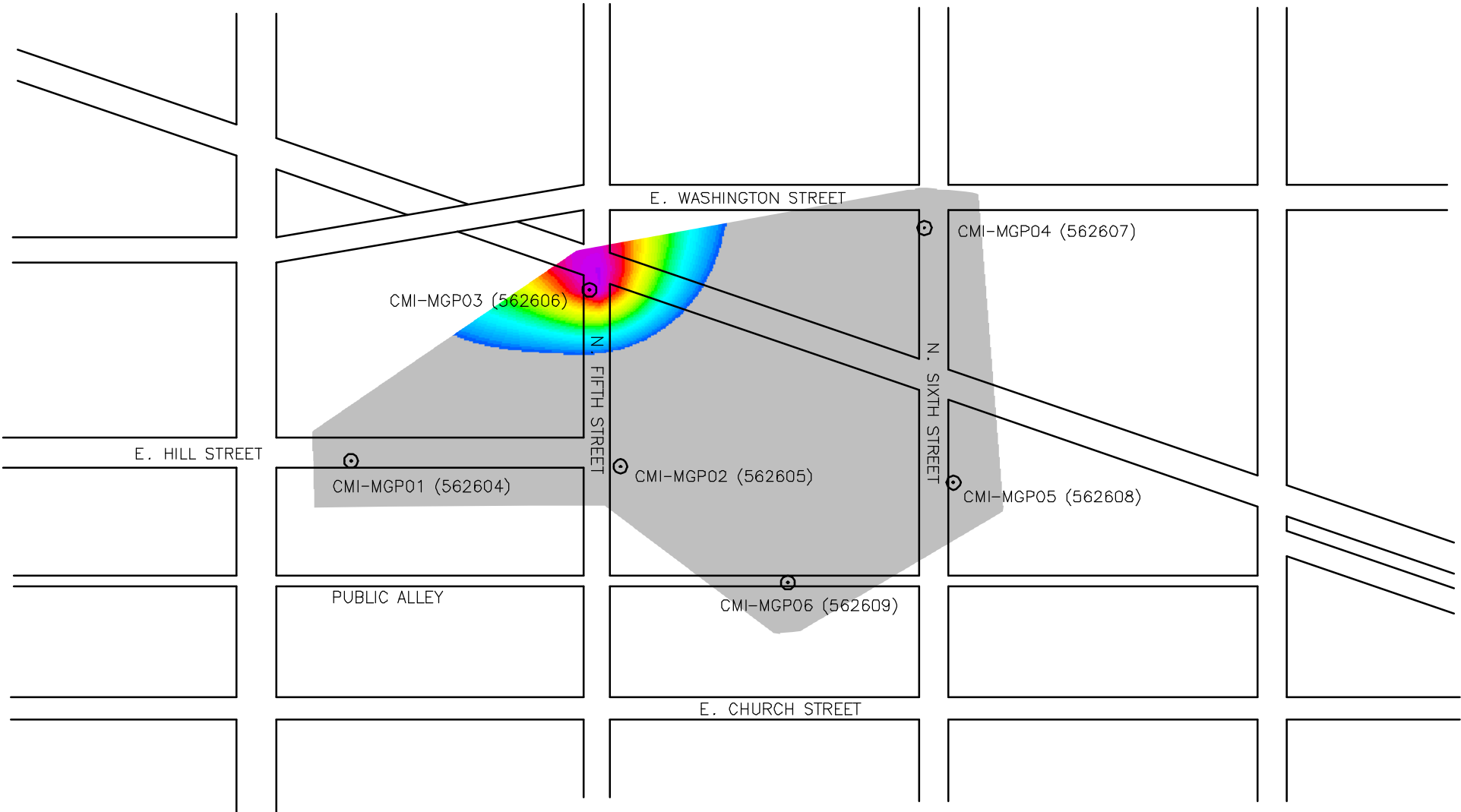
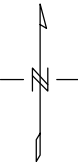
Schneider Geoscience PC
City of Champaign, Fifth and Hill MGP
Total Petroleum Hydrocarbons

DATE DRAWN: 18 April 2008	DRAWN BY: JW	ORIG. CAD: MGPSite.dwg	SITE CODE: EFC
REV. DATE:	REV. #:	PROJECT NUMBER: 13536470	

GORE and designs are trademarks of W.L. GORE & Associates

THIS DRAWING AND ANY OF ITS ATTACHMENTS HAVE BEEN PRODUCED FOR THE SOLE USE OF THE RECIPIENT IDENTIFIED HEREIN AND MUST NOT BE USED, REPRODUCED OR MODIFIED IN ANY WAY WITHOUT THE PRIOR WRITTEN CONSENT OF W.L. GORE & ASSOCIATES. UNAUTHORIZED USE IS STRICTLY PROHIBITED PURSUANT TO COPYRIGHT, TRADEMARK AND OTHER APPLICABLE LAWS.





C11, C13, & C15
[μg]

Scale 1:2400



GORE and designs are trademarks of W.L. GORE & Associates

THIS DRAWING AND ANY OF ITS ATTACHMENTS HAVE BEEN PRODUCED FOR THE SOLE USE OF THE RECIPIENT IDENTIFIED HEREIN AND MUST NOT BE USED, REPRODUCED OR MODIFIED IN ANY WAY WITHOUT THE PRIOR WRITTEN CONSENT OF W.L. GORE & ASSOCIATES. UNAUTHORIZED USE IS STRICTLY PROHIBITED PURSUANT TO COPYRIGHT, TRADEMARK AND OTHER APPLICABLE LAWS.

GORE™ Surveys for Environmental Site Assessment



W.L. GORE & ASSOCIATES, INC.
100 CHESAPEAKE BOULEVARD
ELKTON, MD, USA 21921
USA
(410) 392-7600

Schneider Geoscience PC
City of Champaign, Fifth and Hill MGP
Undecane, Tridecane, & Pentadecane

DATE DRAWN: 18 April 2008	DRAWN BY: JW	ORIG. CAD: MGPSite.dwg	SITE CODE: EFC
REV. DATE:	REV. #:	PROJECT NUMBER: 13536470	